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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,360	07/23/2003	Rahul Sarpeshkar	MIT8924	8225
7590		01/29/2008		
Matthew E. Connors				
Gautheir & Connors LLP				
Suite 3300				
225 Franklin Street				
Boston, MA 02110				
			EXAMINER	
			FAULK, DEVONA E	
			ART UNIT	PAPER NUMBER
			2615	
			MAIL DATE	DELIVERY MODE
			01/29/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/625,360

Applicant(s)

SARPESHKAR ET AL.

Examiner

Devona E. Faulk

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 5-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,5-19,21,22 is/are allowed.
- 6) ☒ Claim(s) 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 April 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Claims 10-19 and 21-22 were indicated as allowable and remain in allowable form.
2. Claim 4 was objected to as being dependent upon a rejected base claim and indicated as allowable if rewritten in independent form. The applicant has added the language of previously recited claim 4 to claim 1. The examiner has further determined that prior art Williamson failed to disclose differentiators.
3. Claims 3,4 and 23 are cancelled..
4. The applicant failed to address the specification objection due to claim 20 and the 112 enablement rejection of claim 20. The examiner is maintaining the specification objection and the 112 enablement rejection.

Specification

1. The disclosure is objected to because of the following informalities:
2. Claim 20 recites " a unity differentiator function". The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 20 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 20 recites "a unity differentiator function". It is not clear what to the examiner what is meant by unity differentiator function or what how this function is applied to the data. The specification therefore is not enabling with regard to this limitation.

Allowable Subject Matter

5. Claims 1,2,5-19,21,22 are allowed.
6. The following is an examiner's statement of reasons for allowance: Regarding claims 1,10,18 and 21, prior art Williamson (US 5,027,410) discloses an adaptive programmable signal processing and filtering for hearing aids including at a plurality of filters that receive a multi-frequency input signal, energy detection units and a unit coupled to each of said energy detection units. Prior art Lyon (US 4,536,844) discloses a method and apparatus for simulating aural response information. Prior art Slaney et al. (US 5,473,759) discloses a sound analysis and resynthesis using

correlations. Prior art Watts (US 7,076,315) discloses an efficient computation of log-frequency-scale digital filter cascade. Prior art Faltys et al. (US 6,980,864) discloses a high contact count, sub-miniature, full implantable cochlear implant. Prior art Fragniere (Design of an Analogue VLSI Model of an Active Cochlea) discloses providing a resonant Q. Prior art Hou (US 6,873,709) discloses a weighting averaging unit.

7. Regarding claim 1, the prior art or combination thereof fails to disclose or make obvious the invention as a whole, specifically a plurality of differentiator units each of which is coupled to the outputs of the filters and to one of the energy detection units and the differentiator units providing double differentiation.

Regarding claims 10 and 21, the prior art or combination thereof fails to disclose or make obvious the invention as whole, specifically, the non-linear unit providing a resonant gain signal Q to said filter (low pass filter) responsive to said weighted-averaging signal.

Regarding claim 18, the prior art or combination thereof fails to disclose or make obvious the invention as a whole, specifically a plurality of differentiator units, each of which is coupled to an output of a low pass filter and each of which provides a differentiator output signal.

Therefore the prior art or combination thereof fails to disclose or make obvious a spectrum enhancement system and a method of providing spectral enhancement as claimed.

Claims 2,5-9,11-17,19 and 22 are allowed due to dependency on claims 1,10,18 and 21.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devona E. Faulk whose telephone number is 571-272-7515. The examiner can normally be reached on 8 am - 5 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Devona E. Faulk


WYAN CHEN
SUPERVISOR PATENT EXAMINER
TECHNOLOGY CENTER 2000
01/07/08